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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,293	05/15/2006	Paolo Bostica	09952.0036	1485
22852	7590	03/29/2010		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
EXAMINER				
DUDA, ADAM K				
ART UNIT		PAPER NUMBER		
2473				
MAIL DATE		DELIVERY MODE		
03/29/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/579,293

**Applicant(s)**

BOSTICA ET AL.

**Examiner**

ADAM DUDA

**Art Unit**

2473

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 38-76 have been considered but are moot in view of the new ground(s) of rejection. The rejections have been clarified as written below in view of the amendments as proposed by applicant on 08/04/2009

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **38-50**, **52-67**, and **69-76** rejected under 35 U.S.C. 103(a) as being unpatentable **Menon (US 2001/0001268)** in view of **Korhonen (EP 1 304 831 A2)**

Menon discloses:

Regarding claim 38, An architecture (see Menon; figure 1; "SMP" and "75") for monitoring quality of service (see Menon; paragraph 0182; "The subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles, subscription activity and subscriber account balances. In an

embodiment, subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned. In an embodiment, subscription activity information includes, but is not limited to, respective subscribers' usage, in time, of service supported by the wireless access system 10, or 100.") in a telecommunication network (see Menon; abstract; "telecommunications network") comprising: a set of terminals (see Menon; abstract; "a base station which provides wireless access for CPRUs" which are terminals; figure 16; multiple "Customer Premise Radio Units"), each terminal of said set of terminals housing at least one measuring agent (see Menon; paragraph 0185; "Each node manager 854, in turn, manages two or more network nodes 856. The network nodes 856 comprise the CPRUs 25, base stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles ... subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned.") configured to interface with applications (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, troubleshooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for

network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management." and a management and configuration subsystem (see Menon; figure 9; "depicts management platforms within the management structure"; paragraph 0160; "network management"; paragraph 0146; "accounting management") comprising a scheduling module (see Menon; paragraph 0170; paragraph 0169; "subscriber registration module") for scheduling quality of service measuring campaigns (see Menon; paragraph 0170; "subscriber registration procedure 152 includes ... collection, storage, and management of subscriber, i.e. customer, data ... subscriber data includes, but is not limited to, a subscriber profile ... example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscribed for, or otherwise assigned"; paragraph 0227; "perform a measurement collection functionality ... measurement collection functionality includes, but is not limited to, a determination of the uplink quality and signal strength to each base station ... the availability and usage of base station's over-the-air resources") identifying a subset of said set of terminals (see Menon; paragraph 02227; "on each base station 30 or 101 for all used") according to a set of identifying characteristics of

a defined measuring campaign (see Menon; paragraph 0227; "the measurement collection functionality includes, but is not limited to, a determination for the uplink radio quality and signal strength on each ...") and configuring, for executing said defined measuring campaign, at least one measuring agent housed by each terminal of said subset, according to said set of identifying characteristics (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 39, the architecture, wherein an additional subsystem is provided for managing a collection of measurement data resulting from said defined measurement campaign (see Menon; figure 9; paragraph 0167; "The network management layer 130 comprises a Network Node Management platform 114 for providing centralized network node management"), said additional subsystem (see Menon; figure 9; paragraph 0167; "network management layer 130") comprising at least one of a database (see Menon; paragraph 0167; "database") for storing said collection of measurement data and of a processing centre for processing said collection of measurement data (see Menon; paragraph 0167; "The NNM platform 114 provides standard network

management functionality, including, but not limited to, configuration management, fault statusing and provisioning"; paragraph 185; "the manager of managers 852 is the Network Node Management (NNM) platform 114. The manager of managers 852 manages two or more node managers 854.").

Regarding claim 40, the architecture, wherein said at least one measuring agent housed by each terminal of said set of terminals (see Menon; figure 13; "Node (agent)" containing "SNMP" and "Agent applications") is configured to dialogue with at least one homologous measurement (i.e. of similar or same structure of same origin; see Menon; figure 12; figure 13; dialogue between "Agent" and "Manager" thus using homologous measurement) and management agent (see Menon; figure 12; "Nodes A-H" dialogue with "Node Manager" dialogue with "Manager of managers"; figure 13; "Network Manager" dialogues with "Node (agent)").

Regarding claim 41, the architecture, wherein said set of terminals comprises at least one mobile terminal (see Menon; paragraph 0027; "FIG. 13 depicts a generic management protocol architecture protocol for management of a network node in a wireless access network").

Regarding claim 42, The architecture, wherein said at least one measuring agent housed by each terminal of said subset is configured to perform operations selected from the group of: conducting co-ordinated measurements on said telecommunication network (see Menon; paragraph 0227; "base station 30 of the wireless access system 10 or a base station 101 of the wireless access

system 100 is operational, it performs a measurement collection functionality", thus a coordinated measurement), performing local storage and pre-processing operations according to a set of processing conditions of said telecommunication network, and managing a transfer (see Menon; paragraph 0228; "results, are reported to the wireless access system") of the collection of measurement data resulting from said defined measurement campaign (see Menon; paragraph 0228; "results") to said additional subsystem (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 43, the architecture, wherein said at least one measuring agent housed by each terminal of said subset is configured to conduct measurements selected from the group of: measuring (see Menon; paragraph 0227; "measurement collection functionality") quality and operating conditions of a set of radio access parameters of said subset, monitoring end-to-end transport performance in real traffic (see Menon; paragraph 0226; "Each CPRU 25, WARP 32 and base station 30 and 101 in wireless access systems 10 and 100 supports self-supervision functionality to detect failures due to equipment, processing, communications, quality of service and environmental conditions"; paragraph 0228; "measurement collection functionality includes, but is not limited to, a determination of the uplink radio quality and signal strength on each base



station 30 or 101 for all used, i.e., busy over-the-air channels, the signal strength on idle, i.e., not user, over-the-air channels, the success rate of over-the-air interface procedures, and the availability and usage of the base station's over-the-air resources.”), monitoring end-to-end transport performance in artificial traffic, measuring and processing said subset to produce quality of service indicators at an application layer, and monitoring operating conditions of a set of resources of said subset and of said telecommunication network (see Menon; paragraph 0219; “CPRUs 25, WARPs 32 and base stations 30 and 101 of wireless access systems 10 and 100 status their own hardware resources to the respective Operation and Maintenance Center (OMC) 72, including, but not limited to, a unique resource description that identifies the respective resource, i.e., the resource type, the version of the particular resource type, and the location of the resource. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is provided to the system's OMC 72 upon the respective CPRU's, WARP's or base station's power on or reset. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is also provided to the OMC 72 as part of a hardware failure status report” ).

Regarding claim 44, the architecture, wherein said at least one measuring agent house by each of said subset is configured to measure (see Menon; paragraph 0170; “collection, storage, and management of subscribers”) a load state of at least one terminal of said subset (see Menon; paragraph 0182;

"subscriber activity information includes, but is not limited to, respective subscribers' usage, in time, of services supported by the wireless access system 10, or 100 ...") and/or of the telecommunication network and to adapt a monitoring of quality of service in said telecommunication network to the measured load state (see Menon; paragraph 0370; "an adaptation function is used by both CPRUs 25 and WARPs, for coordinating, or otherwise interworking, between H.323 voice/fax signaling and the GSM-managed circuit signaling procedures").

Regarding claim 45, the architecture, wherein said management and configuration subsystem comprises at least one communication agent (see Menon; figure 13; "Node (agent)") ) that interfaces with at least one communication agent associated with said at least one measuring agent housed by each terminal of said set of terminals (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 46, the architecture, wherein said management and configuration subsystem comprises at least one communication agent (see Menon; figure 13; "Node (agent)") that interfaces with at least one homologous

communication agent associated with said additional subsystem (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 47, the architecture, wherein said management and configuration subsystem comprising an interface for interfacing with a user (see Menon; paragraph 0199; "the OMC management platform 992 comprises a Graphical User Interface (GUI) 993 for operator interaction in the network management functionality.").

Regarding claim 48, the architecture, wherein said additional subsystem comprises a communication agent (see Menon; figure 13; "Node Manager") configured to communicate (see Menon; figure 13; "Remote or local connection") with at least one communication agent (see Menon; figure 13; "Agent Application") associated with said at least one measuring agent (see Menon; figure 13; "Agent Application" associated with "Node") housed by each terminal of said set (see Menon; figure 12) of terminals (see Menon; figure 13; "Node (Agent)").

Regarding claim 49, the architecture, wherein said additional subsystem comprises an interface for interfacing said architecture with at least one external system (see Menon; figure 9; a layered architecture. Architecture contains "Network Layer Management", "Subscriber Management Platform", "Gateway Management", "Router Management", and other external "management" that manages and collects data.).

Regarding claim 50, the architecture, wherein said at least one measuring agent housed by each terminal of said subset is configured to transfer (see Menon; paragraph 0228; "results, are reported to the wireless access system") said collection of measurement data (see Menon; paragraph 0228; "results") to said additional subsystem (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 52, the architecture, wherein said at least one measuring agent housed by each terminal of said subset dialogue with said at elast one homologous measurement and management agent with a communication resource selected from the group of: information transport by means of SMS, TCP/IP transport (see Menon; figure 13; "TCP" and "IP" with "Remote or local connection"), and UDP/IP transport (see Menon; figure 13; "UDP" and "IP" with "Remote or local connection").

Regarding claim 53, the architecture, wherein said scheduling module is configured to perform at least one operation selected from the group of: defining the set of identifying characteristics of the defined measurement campaign, identifying the subset of said set of terminals to be subjected to said campaign (see Menon; paragraph 0143; "subscriber profile comprises a respective subscriber identification, the subscribed for network services and an assigned Quality of Service (QoS) level"; paragraph 0170; "subscriber registration procedure 152 includes ... the subscriber data includes, but is not limited to, a subscriber profile ... an example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscriber for"), defining a set of measurements to be made and a set of quality of service indicators to be obtained, defining a set of characteristics of the set measurements to be made, and defining a set of contextual information associated with the set of measurements to be made and carried out by said at least one measuring agent housed by each terminal of said subset.

Regarding claim 54, the architecture, wherein, in order to identify said subset of said set of terminals, said scheduling module is configured to carry out operations selected from the group of: continuously searching for the subset of said set of terminals meeting the set of identifying characteristics of the defined measuring campaign, recording said subset of said set of terminals on an internal database, creating a measurement profile with information for conducting a set of measurements by the at least one measuring agent housed by each terminal

of said subset of said set of terminals, activating the defined campaign on each terminal of said subset of said set of terminals, sending (see Menon; paragraph 0228; "results, are reported to the wireless access system") the set of measurements (see Menon; paragraph 0228; "results") collected from each terminal of said subset of said set of terminals (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting."), identifying at least one terminal that no longer meets the set of identifying characteristics of the defined measuring campaign, deactivating the defined measuring campaign (see Menon; paragraph 0228; "Further, any base stations 30 or 101 that was previously requested by the respective system 10 or 100 to cease measurement value reporting" thus deactivate the campaign), and deleting the measurement profile from said each terminal of said subset of said set of .

Regarding claim 75, the architecture as claimed in claim 38, wherein the measuring agents housed within the set of terminals (see Menon; paragraph 0185; "Each node manager 854, in turn, manages two or more network nodes 856. The network nodes 856 comprise the CPRUs 25, base stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles ...

subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned.") comprise; a measuring agent configured to interface with a application (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, trouble-shooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management."); an elaboration agent configured to pre-process said set of measurement data derived from said application session (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, trouble-shooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for network node management, including, but not limited to, configuration management, fault

management, performance management, accounting management and security management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management."); and a communication agent configured to send said set of pre-processed measurement data to said management and configuration subsystem (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Menon does not specifically disclose:

Regarding claim 38, interface with processes selected from a group of processes among processes for managing application sessions of said telecommunication network and processes for measuring operating conditions of said telecommunication network .

Regarding claim 75, whereing the application is a process for managing an application session of said telecommunication network and to derive therefrom a set of measurement data.



Korhonan more specifically discloses:

Regarding claim 38, interface with processes (see Korhonan; paragraph 0033; "IP Communication") selected from a group of processes (see Korhonan; paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP, user Datagram Protocol, Internet Control Message Protocol (ICMP)") for managing application sessions (see Korhonan; paragraph 0033; "TCP/IP" is used to manage and establish application sessions) of said telecommunication network (see Korhonan; paragraph 0033; "QoS" and "message" thus of a network) and processes for measuring (see Korhonan; paragraph 0021; "first of which is to pro-process and refine QoS data into a form suited for applications") operating conditions of said telecommunication network (see Korhonan; paragraph 0021; "activities include e.g. the calculation of transfer rate, standard deviations and calculation of percentages e.g. in loss of packets");

Regarding claim 75, whereing the application is a process (see Korhonan; paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP, user Datagram Protocol, Internet Control Message Protocol (ICMP)") for managing an application session (see Korhonan; paragraph 0033; "TCP/IP" is used to manage and establish application sessions) of said telecommunication network and to derive therefrom a set of measurement data (see Korhonan; paragraph 0033; "QoS" and "message" thus of a network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Menon, as taught by Korhonen, thereby overcoming or alleviating drawbacks such as: being unable to guarantee a certain level of quality or service (QoS) (see Korhonen; paragraph 0003), the problem of the level of quality of data transfer varying considerably depending on location, time and network load (see Korhonen; paragraph 0003), and not being able to provide a guarantee of packets reaching their destination as IP-based packet switched network are basically "best effort" network and packets are transmitted to their destination within the limits allowed by the network (see Korhonen; paragraph 0004).

Menon discloses:

Regarding claim 55, a method (see Menon; figure 1; "SMP" and "75"; paragraph 0182; "procedure") for monitoring quality of service (see Menon; paragraph 0182; "The subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles, subscription activity and subscriber account balances. In an embodiment, subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned. In an embodiment,

subscription activity information includes, but is not limited to, respective subscribers' usage, in time, of service supported by the wireless access system 10, or 100.") in a telecommunication network comprising a set of terminals (see Menon; abstract; "telecommunications network") comprising : associating (see Menon; abstract; "a base station which provides wireless access for CPRUs" which are terminals; figure 16; multiple "Customer Premise Radio Units") each terminal of said set of terminals with at least one measuring agent (see Menon; paragraph 0185; "Each node manager 854, in turn, manages two or more network nodes 856. The network nodes 856 comprise the CPRUs 25, base stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles ... subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned.") configured to interface with applications (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, trouble-shooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security

management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management.”) and conducting quality of service measuring campaigns (see Menon; paragraph 0170; “subscriber registration procedure 152 includes ... collection, storage, and management of subscriber, i.e. customer, data ... subscriber data includes, but is not limited to, a subscriber profile ... example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscribed for, or otherwise assigned”; paragraph 0227; “perform a measurement collection functionality ... measurement collection functionality includes, but is not limited to, a determination of the uplink quality and signal strength to each base station ... the availability and usage of base station’s over-the-air resources”), each quality of service measuring campaign involving a subset of said set of terminals (see Menon; paragraph 02227; “on each base station 30 or 101 for all used”) according to a set of identifying characteristics of a defined measuring campaign (see Menon; paragraph 0227; “the measurement collection functionality includes, but is not limited to, a determination for the uplink radio quality and signal strength on each ...”) and configuring, executing said defined measuring campaign, at least one measuring agent associated with each terminal of said subset according to said set of identifying characteristics (see Menon; paragraph 0228; “The base stations’ measured, and /or collected

values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 56, the method as claimed in claim 55, comprising the managing a collection of measurement data (see Menon; figure 9; paragraph 0167; "The network management layer 130 comprises a Network Node Management platform 114 for providing centralized network node management") and providing at least one of a database (see Menon; paragraph 0167; "database") for storing said collection of measurement data and a processing centre for processing said collection of measurement data (see Menon; paragraph 0167; "The NNM platform 114 provides standard network management functionality, including, but not limited to, configuration management, fault statusing and provisioning"; paragraph 185; "the manager of managers 852 is the Network Node Management (NNM) platform 114. The manager of managers 852 manages two or more node managers 854.>").

Regarding claim 57, the method as claimed in claim 55, comprising configuring said at least one measuring agent associated with each terminal (see Menon; figure 13; "Node (agent)" containing "SNMP" and "Agent applications") of said set of terminals to dialogue with at least one homologous

measurement (i.e. of similar or same structure of same origin; see Menon; figure 12; figure 13; dialogue between "Agent" and "Manager" thus using homologous measurement) and management agent (see Menon; figure 12; "Nodes A-H" dialogue with "Node Manager" dialogue with "Manager of managers"; figure 13; "Network Manager" dialogues with "Node (agent)").

Regarding claim 58, the method as claimed in claim 55, wherein at least one terminal of said set of terminals comprises a mobile terminal (see Menon; paragraph 0027; "FIG. 13 depicts a generic management protocol architecture protocol for management of a network node in a wireless access network").

Regarding claim 59, the method, comprising configuring said at least one measuring agent associated with each terminal of said subset to perform steps selected from the group of: conducting co-ordinated measurements on said telecommunication network (see Menon; paragraph 0227; "base station 30 of the wireless access system 10 or a base station 101 of the wireless access system 100 is operational, it performs a measurement collection functionality", thus a coordinated measurement), performing local storage and pre-processing operations according to a set of processing conditions of said telecommunication network, and managing a transfer (see Menon; paragraph 0228; "results, are reported to the wireless access system") of a collection of measurement data resulting from conducting the defined measuring campaign (see Menon; paragraph 0228; "results") to an additional sub-system for managing the collection of the measurement data (see Menon; paragraph 0228;

"base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 60, the method, comprising configuring said at least one measuring agent associated with each terminal of said subset to conduct measurements selected from the group of: measuring (see Menon; paragraph 0227; "measurement collection functionality") quality and operating conditions of a set of radio access parameters of said subset (see Menon; paragraph 0226; "Each CPRU 25, WARP 32 and base station 30 and 101 in wireless access systems 10 and 100 supports self-supervision functionality to detect failures due to equipment, processing, communications, quality of service and environmental conditions"; paragraph 0228; "measurement collection functionality includes, but is not limited to, a determination of the uplink radio quality and signal strength on each base station 30 or 101 for all used, i.e., busy over-the-air channels, the signal strength on idle, i.e., not user, over-the-air channels, the success rate of over-the-air interface procedures, and the availability and usage of the base station's over-the-air resources."), monitoring end-to-end transport performance in real traffic, monitoring end-to-end transport performance in artificial traffic, measuring and processing on said subset for the production of quality of service indicators at an application layer, and monitoring operating conditions of a set of resources of said subset and of said telecommunication network (see Menon;

paragraph 0219; "CPRUs 25, WARPs 32 and base stations 30 and 101 of wireless access systems 10 and 100 status their own hardware resources to the respective Operation and Maintenance Center (OMC) 72, including, but not limited to, a unique resource description that identifies the respective resource, i.e., the resource type, the version of the particular resource type, and the location of the resource. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is provided to the system's OMC 72 upon the respective CPRU's, WARP's or base station's power on or reset. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is also provided to the OMC 72 as part of a hardware failure status report" ).

Regarding claim 61, the method, comprising : measuring (see Menon; paragraph 0170; "collection, storage, and management of subscribers"), by means of said at least one measuring agent associated with each terminal of said subset, a load state of at least one terminal of said subset (see Menon; paragraph 0182; "subscriber activity information includes, but is not limited to, respective subscribers' usage, in time, of services supported by the wireless access system 10, or 100 ... ") and/or of said telecommunications network, and adapting a monitoring of quality of service in said telecommunication network to the measured load state (see Menon; paragraph 0370; "an adaptation function is used by both CPRUs 25 and WARPs, for coordinating, or otherwise interworking,



between H.323 voice/fax signaling and the GSM-managed circuit signaling procedures").

Regarding claim 62, the method, comprising the step of providing a sub-system for the management and configuration of the quality of service measurement campaigns that interfaces with said at least one measuring agent associated with each terminal of said set of terminals (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 63, the method, comprising : providing a sub-system for the management and configuration of the quality of service measurement campaigns, and providing an additional sub-system for managing the collection of measurement data that interfaces with said sub-system for the management and configuration of the quality of service measurement campaigns (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value

reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting”).

Regarding claim 64, the method, comprising the step of providing a sub-system for the management and configuration of the quality of service measurement campaigns that interfaces with a user (see Menon; paragraph 0199; “the OMC management platform 992 comprises a Graphical User Interface (GUI) 993 for operator interaction in the network management functionality.”).

Regarding claim 65, the method, comprising providing an additional sub-system for managing the collection of measurement data configured to communicate (see Menon; figure 13; “Remote or local connection”) with said at least one measuring agent (see Menon; figure 13; “Agent Application”) associated with each terminal (see Menon; figure 13; “Node (Agent)”) of said set of terminals (see Menon; figure 12).

Regarding claim 66, the method, comprising providing an additional sub-system for managing the collection of measurement data configured to interface with at least one external system (see Menon; figure 9; a layered architecture. Architecture contains “Network Layer Management”, “Subscriber Management Platform”, “Gateway Management”, “Router Management”, and other external “management” that manages and collects data.).

Regarding claim 67, the method, comprising : providing an additional sub-system for managing the collection of measurement data, and configuring said

at least one measuring agent associated with each terminal of said subset to transfer (see Menon; paragraph 0228; "results, are reported to the wireless access system") said collection of measurement data (see Menon; paragraph 0228; "results") to said additional sub-system (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 69, the method, comprising configuring said at least one measuring agent associated with each terminal of said set of terminals for dialoguing with said homologous measurement and management agent with a communication resource selected from the group of information transport by means of SMS, TCP/IP transport (see Menon; figure 13; "TCP" and "IP" with "Remote or local connection"), and UDP/IP transport (see Menon; figure 13; "UDP" and "IP" with "Remote or local connection").

Regarding claim 70, the method, wherein conducting said quality of service measurement campaigns in turn comprises at least a step selected from the group of: defining the set of identifying characteristics of the defined measuring campaign, identifying the subset of said set of terminals to be subjected to said defined measuring campaign (see Menon; paragraph 0143; "subscriber profile comprises a respective subscriber identification, the subscribed for network services and an assigned Quality of Service (QoS) level";

paragraph 0170; "subscriber registration procedure 152 includes ... the subscriber data includes, but is not limited to, a subscriber profile ... an example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscriber for"), defining a set of measurements to be made and a set of quality of service indicators to be obtained, defining a set of characteristics of a set of measurements to be made, and defining contextual information associated with said set of measurements to be made and carried out by said at least one measuring agent associated with each terminal of said subset.

Regarding claim 71, the method, further comprising , in order to identify said subset of said set of terminals, the steps selected from the group of: continuously searching for the subset of said set of terminals meeting the set of identifying characteristics of the defined measuring campaign, recording said subset of said set of terminals on an internal database, creating a measurement profile with information for conducting a set of measurements by the at least one measuring agent associated with each terminal of said subset, activating the defined measuring campaign on each terminal of said subset , sending (see Menon; paragraph 0228; "results, are reported to the wireless access system") the set of measurements (see Menon; paragraph 0228; "results") collected from each terminal of said subset of said set of terminals (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the

respective system 10 or 100 to cease measurement value reporting."), identifying at least one terminal that no longer meets the set of identifying characteristics of the defined measuring campaign, deactivating the defined measuring campaign (see Menon; paragraph 0228; "Further, any base stations 30 or 101 that was previously requested by the respective system 10 or 100 to cease measurement value reporting" thus deactivate the campaign), and deleting the measurement profile from each terminal of said subset of said set of terminals.

Regarding claim 72, a telecommunication network (see Menon; figure 1; "network") comprising, the architecture (see Menon; figure 9; "item "110" is the "management" architecture for "monitoring") as claimed in claim 38, and associated with the telecommunication network (see Menon; figure 9; "item "110" is associated with "network").

Regarding claim 73, the telecommunication network, comprising at least an application server housing at least one measuring agent (see Menon; figure 13; "agent application" and "node (agent)") that interacts with said architecture.

Regarding claim 74, a computer-readable medium storing a computer program product for execution on a processor, (see Menon; figure 13; "application", thus instructions embedded on a computer readable medium) the computer program product comprising portions of software code for implementing the method as claimed in any one of claims 55-71.

Regarding claim 76, the method as claimed in claim 55, wherein the measuring agents housed within the set of terminals (see Menon; paragraph

0185; "Each node manager 854, in turn, manages two or more network nodes 856. The network nodes 856 comprise the CPRUs 25, base stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscriber profiles ... subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned.") comprise; a measuring agent configured to interface with a application (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, trouble-shooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management."); an elaboration agent configured to pre-process said set of measurement data derived from said application session (see Menon; paragraph 0168; "the NNM platform 114 provides standard APIs (Application Platform

Interfaces) which allow attachment of third party applications ... for purposes including, but not limited to, trouble-shooting and error management, asset management and system, service and functionality analysis"; paragraph 0188; "sports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management. Likewise, the agent applications layer 841 of the node element protocol stack 840 supports the application functionality for network node management, including, but not limited to, configuration management, fault management, performance management, accounting management and security management."); and a communication agent configured to send said set of pre-processed measurement data to said management and configuration subsystem (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Menon does not specifically disclose:

Regarding claim 55, interface with processes selected from a group of processes for managing application sessions of said telecommunication network

and processes for measuring operating conditions of said telecommunication network.

Regarding claim 75, wherein the application is a process for managing an application session of said telecommunication network and to derive therefrom a set of measurement data.

Korhonen more specifically discloses:

Regarding claim 55, interface with processes (see Korhonen; paragraph 0033; "IP Communication") selected from a group of processes (see Korhonen; paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP, user Datagram Protocol, Internet Control Message Protocol (ICMP)") for managing application sessions (see Korhonen; paragraph 0033; "TCP/IP" is used to manage and establish application sessions) of said telecommunication network (see Korhonen; paragraph 0033; "QoS" and "message" thus of a network) and processes for measuring (see Korhonen; paragraph 0021; "first of which is to pro-process and refine QoS data into a form suited for applications") operating conditions of said telecommunication network (see Korhonen; paragraph 0021; "activities include e.g. the calculation of transfer rate, standard deviations and calculation of percentages e.g. in loss of packets"),

Regarding claim 75, wherein the application is a process (see Korhonen; paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP, user Datagram Protocol, Internet Control Message Protocol (ICMP)") for managing an application session (see Korhonen; paragraph 0033; "TCP/IP" is



used to manage and establish application sessions) of said telecommunication network and to derive therefrom a set of measurement data (see Korhonen; paragraph 033; "QoS" and "message" thus of a network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Menon, as taught by Korhonen, thereby overcoming or alleviating drawbacks such as: being unable to guarantee a certain level of quality or service (QoS) (see Korhonen; paragraph 0003), the problem of the level of quality of data transfer varying considerably depending on location, time and network load (see Korhonen; paragraph 0003), and not being able to provide a guarantee of packets reaching their destination as IP-based packet switched network are basically "best effort" network and packets are transmitted to their destination within the limits allowed by the network (see Korhonen; paragraph 0004).

3. Claims **51** and **68** rejected under 35 U.S.C. 103(a) as being unpatentable over **Menon (US 2001/0001268)** in view of **Korhonan (EP 1 304 831 A2)**, and further in view of **Bellifemine (“JADE: Java Agent Development Framework”)**.

Menon in view of Korhonan disclose:

Regarding claim 51, the architecture (see Menon; figure 1; “SMP” and “75”; figure 9).

Regarding claim 55, the method (see Menon; figure 1; “SMP” and “75”; paragraph 0182; “procedure”).

Menon in view of Korhonan do not specifically disclose:

Regarding claim 51, the architecture, wherein said at least one measuring agent house by each terminal of said subset of terminals operates according to Jade technology.

Regarding claim 68, the method, wherein said at least one measuring agent house by each terminal of said subset of terminals operates according to Jade technology.

Bellifemine more specifically discloses:

Regarding claim 51, the architecture, wherein said at least one measuring agent (see Bellifemine; slide 3; “Agent”) house by each terminal of said subset of terminals operates according to Jade technology (see Bellifemine; slide 1;

"JADE: Java Agent Development Framework"; slide 5 "FIPA: Conceptual Model of an Agent Platform"; "Agent Platform" for "Services").

Regarding claim 68, the method, wherein said at least one measuring agent (see Bellifemine; slide 3; "Agent") house by each terminal of said subset of terminals operates according to Jade technology (see Bellifemine; slide 1; "JADE: Java Agent Development Framework"; slide 5 "FIPA: Conceptual Model of an Agent Platform"; "Agent Platform" for "Services").

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Menon in view of Korhonen, as taught by Bellifemine, thereby using a standard thus allowing for the enabling factor for openness and heterogeneity (see Bellifemine; slide 3); allowing for agents from several designers, several vendors, or several organizations (see Bellifemine; slide 3); providing a standard way of interpreting communication between agents that respect the intended meaning of the communication (see Bellifemine; slide 4).

***Conclusion***

1. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM DUDA whose telephone number is (571)270-5136. The examiner can normally be reached on Mon. - Fri. 9:30 a.m. - 7:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272 - 3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ADAM DUDA/  
Examiner, Art Unit 2416

/KWANG B. YAO/  
Supervisory Patent Examiner, Art Unit 2473